Title: SYSTEMS AND METHODS FOR LOW BIT RATE AUDIO CODERS

REMARKS

Applicants have carefully reviewed and considered the Office Action mailed on March 13, 2008, and the references cited therewith.

Claims 1, 4, 5, 6, 9, 12, 15, 18 and 21 are amended, claims 3, 8 and 22 are canceled; as a result, claims 1-2, 4-7, 9-21 are now pending in this application.

\$102 Rejection of the Claims

Claims 1-22 were rejected under 35 U.S.C. §102(e) as being anticipated by Liu et al., (U.S. PAP 2004/0002859).

Claims 1-22 are respectfully asserted to distinguish over Liu et al.

Liu describes a method of digital coding for transmitting and packing audio signals with high quality and much less computing complexity. Also Liu discloses a method of digital coding transforms input audio signals into a sequence of frequency samples representing a spectral composition of the audio signals, and quantizes the sequence of frequency samples into quantized values according to a bit allocation process. Further, Liu describes a method of computing the global gains and the scale factor gains based on the quantization noise and masking thresholds. Furthermore, in paragraph [0066] Liu describes computing the global gains by constraining the scale factor in the range of 0 - 16 and holding the minimum scale for these quantization bands to zero. In contrast, amended independent claims 1, 4, 9, 12, 15, 18 and 21 recite a method of quantizing an audio signal by iteratively incrementing a quantization step size of each scale factor band of a current audio frame. The number of bits consumed in quantizing spectral lines in the scale factor bands in the current frame is then compared to a specified bit rate. Further, scale factor bands are then checked to determine whether they are at a vanishing point, where the vanishing point is a point at which any increase in the quantization step size can result in a quantized value of zero. Furthermore, the quantization step sizes of these scale factor bands are then frozen and quantization stops, when the number of bits consumed in quantizing the spectral lines in the scale factor bands is at or below the specified bit rate. Support for this can be found claims 1, 4, 9, 12, 15, 18 and 21, page 3; lines 16-24 and page 5; lines 15-19.

Claims 2, 5-7, 10-11, 13-14, 16-17 and 19-20 are depend directly or indirectly from amended independent claims 1, 4, 9, 12, 15, 18 and 21, respectively, so they should be allowable for the reason presented above.

For the above reasons, claims 1-22 should be found allowable over Liu et al. and Applicants request that the rejection of claims 1-22 as anticipated by Liu et al. should be withdrawn.

Claims 1-22 were rejected under 35 U.S.C. §102(e) as being anticipated by Liu et al., (U.S. PAP 2004/0002859). Applicants do not admit that the Liu patent is prior art to the present invention and reserve the right to swear being this patent at a later date. Nonetheless, Applicants believe the claims of the present invention are distinguishable over this reference.

Page 13 Dkt: 1864.005U\$1

Conclusion

Applicants have respectfully submit that the claims 1-2, 4-7, 9-21 are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicants' attorney (603-888-7958) to facilitate prosecution of this application.

Respectfully submitted,

VINOD PRAKASH ET AL.

By their Representatives,

Global IP Services, PLLC, 198F, 27th cross,3rd block, Jayanagar, Bangalore-560011. INDIA.

Phone: 603-888-7958

Date: July 9, 2008

Prakash Nama

Reg. No. 44,255